REMARKS

Status of the claims

Claims 4-5, 7-35 and 37-45 are now pending in this application. Claims 4, 5, 35 and 38 are currently under examination. Claims 4, 35 and 38 have been amended to more particularly point out the claimed invention. Specifically, claim 4 has been amended to clarify that the α, β and γ subunits each comprise a fluorescent or luminescent protein. Support for this amendment can be found in Figures 27 and 28. Claim 35 has been amended to depend from claim 4 and to clarify that each of the first, second and third fluorescent or luminescent proteins are FRET capable. Clam 38 has been amended to depend from claim 4.

Rejections under 35 U.S.C. §103

Claims 4, 5, 35, and 38 are rejected under 35 U.S.C. § 103(a) as being unpatentable over Devreotes et al. (U.S. Patent Application Publication 2002/0048811) (hereinafter referred to as "Devreotes") in view of Wittamer et al. (U.S. Patent Application Publication 2003/0104478) (hereinafter referred to as "Wittamer").

Devreotes describes activation of heterotrimetric G-proteins that is visualized in living cells by monitoring a fluorescence resonance energy transfer (FRET) between two subunits of G-protein fused to cyan and yellow fluorescent proteins. Wittamer describes screening assays for the identification of candidate compounds and G-protein coupled receptor signaling. Notably, neither Devreotes nor Wittamer, considered alone or in combination, describes or suggests a biosensor including mammalian G protein subunits that include a mammalian α subunit including a first amino acid sequence encoding a first fluorescent and/or a luminescent protein and a mammalian subunit complex, wherein the complex has a β subunit and a γ subunit, each of which include an amino acid sequence encoding a fluorescent and/or luminescent protein.

Claim 4 recites a functional biosensor comprising a mammalian α subunit comprising a first amino acid sequence encoding at least one of a first fluorescent or a luminescent protein, and a mammalian βγ subunit complex, wherein the β subunit comprises a second amino acid sequence encoding at least one of a second fluorescent or luminescent protein and the γ subunit

comprise a third amino acid sequence encoding at least one of a third fluorescent or luminescent protein, wherein said first, and said second and third fluorescent or luminescent proteins are at least FRET or BRET capable. Claims 5, 35 and 38 depend from claim 1.

Again, this is different than Devroetes, which discloses fusion of a fluorescent or luminescent protein to only two subunits of the heterotrimeric G protein. Wittamer does not make up for this shortcoming, and thus the combination of Devroetes and Wittamer does not teach each and every element of the claimed invention. Thus, the Office has failed in establishing a prima facie case of obviousness as to the claims as amended.

For at least the reasons set forth above, Applicants respectfully request that the rejection of claims 4, 5, 35 and 38 under 35 U.S.C. §103(a) be withdrawn.

CONCLUSION

In view of the foregoing amendment and remarks, all claims now under examination in this application are believed to be in condition for allowance. Reconsideration and favorable action is respectfully requested. Applicants do not believe any fees are due in connection with this Amendment; however, the Commissioner is hereby authorized to charge any fees which may be required to Deposit Account No. 01-2384 in the name of ARMSTRONG TEASDALE LLP.

Respectfully submitted,

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